

**§ 57.6605**

from the blast area or to a safe location; or

(b) Underground electrical blasting operations that are capable of being initiated by lightning shall be suspended and all persons withdrawn from the blast area or to a safe location.

**§ 57.6605 Isolation of blasting circuits.**

Lead wires and blasting lines shall be isolated and insulated from power conductors, pipelines, and railroad tracks, and shall be protected from sources of stray or static electricity. Blasting circuits shall be protected from any contact between firing lines and overhead powerlines which could result from the force of a blast.

EQUIPMENT/TOOLS—SURFACE AND UNDERGROUND

**§ 57.6700 Nonsparking tools.**

Only nonsparking tools shall be used to open containers of explosive material or to punch holes in explosive cartridges.

**§ 57.6701 Tamping and loading pole requirements.**

Tamping and loading poles shall be of wood or other nonconductive, nonsparking material. Couplings for poles shall be nonsparking.

MAINTENANCE—SURFACE AND UNDERGROUND

**§ 57.6800 Storage facilities.**

When repair work which could produce a spark or flame is to be performed on a storage facility—

(a) The explosive material shall be moved to another facility, or moved at least 50 feet from the repair activity and monitored; and

(b) The facility shall be cleaned to prevent accidental detonation.

**§ 57.6801 Vehicle repair.**

Vehicles containing explosive material and oxidizers shall not be taken into a repair garage or shop.

**§ 57.6802 Bulk delivery vehicles.**

No welding or cutting shall be performed on a bulk delivery vehicle until the vehicle has been washed down and all explosive material has been re-

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moved. Before welding or cutting on a hollow shaft, the shaft shall be thoroughly cleaned inside and out and vented with a minimum ½-inch diameter opening to allow for sufficient ventilation.

**§ 57.6803 Blasting lines.**

Permanent blasting lines shall be properly supported. All blasting lines shall be insulated and kept in good repair.

GENERAL REQUIREMENTS—SURFACE AND UNDERGROUND

**§ 57.6900 Damaged or deteriorated explosive material.**

Damaged or deteriorated explosive material shall be disposed of in a safe manner in accordance with the instructions of the manufacturer.

**§ 57.6901 Black powder.**

(a) Black powder shall be used for blasting only when a desired result cannot be obtained with another type of explosive, such as in quarrying certain types of dimension stone.

(b) Containers of black powder shall be—

(1) Nonsparking;

(2) Kept in a totally enclosed cargo space while being transported by a vehicle;

(3) Securely closed at all times when—

(i) Within 50 feet of any magazine or open flame;

(ii) Within any building in which a fuel-fired or exposed-element electric heater is operating; or

(iii) In an area where electrical or incandescent-particle sparks could result in powder ignition; and

(4) Opened only when the powder is being transferred to a blasthole or another container and only in locations not listed in paragraph (b)(3) of this section.

(c) Black powder shall be transferred from containers only by pouring.

(d) Spills shall be cleaned up promptly with nonsparking equipment. Contaminated powder shall be put into a container of water and shall be disposed of promptly after the granules have disintegrated, or the spill area shall be flushed promptly with water

until the granules have disintegrated completely.

(e) Misfires shall be disposed of by washing the stemming and powder charge from the blasthole, and removing and disposing of the initiator in accordance with the requirement for damaged explosives.

(f) Holes shall not be reloaded for at least 12 hours when the blastholes have failed to break as planned.

**§ 57.6902 Excessive temperatures.**

(a) Where heat could cause premature detonation, explosive material shall not be loaded into hot areas, such as kilns or sprung holes.

(b) When blasting sulfide ores where hot holes occur that may react with explosive material in blastholes, operators shall—

(1) Measure an appropriate number of blasthole temperatures in order to assess the specific mine conditions prior to the introduction of explosive material;

(2) Limit the time between the completion of loading and the initiation of the blast to no more than 12 hours; and

(3) Take other special precautions to address the specific conditions at the mine to prevent premature detonation.

**§ 57.6903 Burning explosive material.**

If explosive material is suspected of burning at the blast site, persons shall be evacuated from the endangered area and shall not return for at least one hour after the burning or suspected burning has stopped.

**§ 57.6904 Smoking and open flames.**

Smoking and use of open flames shall not be permitted within 50 feet of explosive material except when separated by permanent noncombustible barriers. This standard does not apply to devices designed to ignite safety fuse or to heating devices which do not create a fire or explosion hazard.

**§ 57.6905 Protection of explosive material.**

(a) Explosive material shall be protected from temperatures in excess of 150 degrees Fahrenheit.

(b) Explosive material shall be protected from impact, except for tamping and dropping during loading.

GENERAL REQUIREMENTS—  
UNDERGROUND ONLY

**§ 57.6960 Mixing of explosive material.**

(a) The mixing of ingredients to produce explosive material shall not be conducted underground unless prior approval of the MSHA district manager is obtained. In granting or withholding approval, the district manager shall consider the potential hazards created by—

(1) The location of the stored material and the storage practices used;

(2) The transportation and use of the explosive material;

(3) The nature of the explosive material, including its sensitivity;

(4) Any other factor deemed relevant to the safety of miners potentially exposed to the hazards associated with the mixing of the bulk explosive material underground.

(b) Storage facilities for the ingredients to be mixed shall provide drainage away from the facilities for leaks and spills.

**Subpart F—Drilling and Rotary Jet Piercing**

DRILLING—SURFACE ONLY

**§ 57.7002 Equipment defects.**

Equipment defects affecting safety shall be corrected before the equipment is used.

**§ 57.7003 Drill area inspection.**

The drilling area shall be inspected for hazards before starting the drilling operations.

**§ 57.7004 Drill mast.**

Persons shall not be on a mast while the drill-bit is in operation unless they are provided with a safe platform from which to work and they are required to use safety belts to avoid falling.

**§ 57.7005 Augers and drill stems.**

Drill crews and others shall stay clear of augers or drill stems that are in motion. Persons shall not pass under or step over a moving stem or auger.